

**(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)**

**(19) World Intellectual Property  
Organization  
International Bureau**



**(43) International Publication Date**  
**29 April 2004 (29.04.2004)**

**PCT**

**(10) International Publication Number**  
**WO 2004/036789 A1**

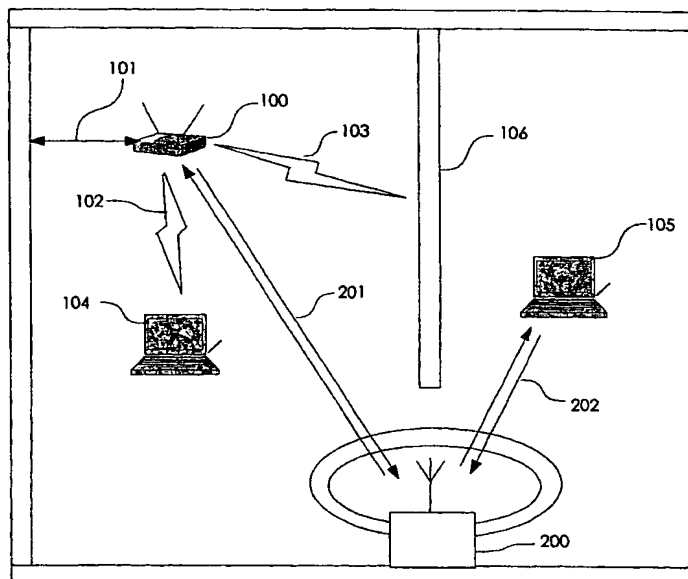
- (51) **International Patent Classification<sup>7</sup>:** **H04B 7/15**
- (21) **International Application Number:**  
PCT/US2003/029130
- (22) **International Filing Date:** 15 October 2003 (15.10.2003)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
60/418,288 15 October 2002 (15.10.2002) US
- (71) **Applicant (for all designated States except US):** **WIDEFi, INC.** [US/US]; 476 Hwy A1A, Suite 3, Satellite Beach, FL 32937 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **GAINEY, Kenneth, M.** [US/US]; Widefi, Inc., 476 Hwy A1A, Suite 3, Satellite Beach, FL 32937 (US). **PROCTOR, James, A., Jr.** [US/US]; Widefi, Inc., 476 Hwy A1A, Suite 3, Satellite Beach, FL 32937 (US).
- (74) **Agent:** **POSZ, David, G.;** Posz & Bethards, PLC, 11250 Roger Bacon Drive, Suite 10, Reston, VA 20190 (US).
- (81) **Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

- (54) Title:** WIRELESS LOCAL AREA NETWORK REPEATER WITH AUTOMATIC GAIN CONTROL FOR EXTENDING NETWORK COVERAGE



**(57) Abstract:** A frequency translating repeater (200) for use in a time division duplex radio protocol communications system includes an automatic gain control feature. Specifically, a received signal (330) is split to provide signal detection paths (331, 332) wherein detection is performed by amplifiers (301, 302) filters (311, 312), converters (313, 314) and a processor (315). Delay is added using analog circuits such as SAW filters (307, 308, 309, 310) and gain adjustment provided by gain control elements (303, 304, 305, 306).

**WO 2004/036789 A1**